



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/713,967

11/14/2003

Richard A. Proulx

086333.00003

3175

34261

7590

05/08/2006

HOLLAND & KNIGHT LLP

633 WEST FIFTH STREET, TWENTY-FIRST FLOOR

LOS ANGELES, CA 90071-2040

EXAMINER

DEL SOLE, JOSEPH S

ART UNIT

PAPER NUMBER

1722

DATE MAILED: 05/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.



## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 28-31 and 33-34 are rejected under 35 U.S.C. 102(b) as being anticipated by Groff (4,445,838).

Groff teaches an assembly for use in continuously forming a plurality of lengths of extrudate (Fig 1); having a housing (Fig 2); and a plurality of extrusion dies disposed in the housing (Figs 1 and 2), each of the dies defining a hole configuration in the lower end thereof for the extrusion of one or more strands of molten monofilament material therethrough; a fluid flow pathway disposed within the housing adapted for fluid communication with a source of molten monofilament material for directing the material onto the dies (Fig 2); a drive assembly for rotating each of the die at a speed (Fig 2) thereby twisting filaments by synchronously rotating a die about a central longitudinal axis during extrusion and having a drive cylinder, motor, gears and engagement surface (Fig 1), the holes being of equal diameter and connected together at adjacent edge portions (Fig 1).

The Examiner notes that the intended use of an apparatus does not weight in an apparatus claim. Therefore the limitation “for use in continuously forming a plurality of lengths of flexible noise attenuating cutting line for use in rotary vegetation trimmers” is

not considered unless further structural limitations within the claim can only perform thus intended use.

3. Claims 28-34 and 36 are rejected under 35 U.S.C. 102(b) as being anticipated by Groff et al (4,288,463).

Groff teaches an assembly for use in continuously forming a plurality of lengths of extrudate (Fig 1); having a housing (Fig 2); and a plurality of extrusion dies disposed in the housing (Figs 1 and 2), each of the dies defining a hole configuration in the lower end thereof for the extrusion of one or more strands of molten monofilament material therethrough; a fluid flow pathway disposed within the housing adapted for fluid communication with a source of molten monofilament material for directing the material onto the dies (Fig 2); a drive assembly for rotating each of the die at a speed (Fig 2) thereby twisting filaments by synchronously rotating a die about a central longitudinal axis during extrusion and having a drive cylinder, motor, gears and engagement surface (Fig 1), the holes being of equal diameter spaced apart a distance less than the diameter and connected together at adjacent edge portions (Fig 1).

The Examiner notes that the intended use of an apparatus does not weight in an apparatus claim. Therefore the limitation "for use in continuously forming a plurality of lengths of flexible noise attenuating cutting line for use in rotary vegetation trimmers" is not considered unless further structural limitations within the claim can only perform thus intended use.

4. Claims 28-31 and 33-34 are rejected under 35 U.S.C. 102(b) as being anticipated by Israel (5,609,903).

Israel teaches an assembly for us in continuously forming a plurality of lengths of extrudate (Fig 1); having a housing (Fig 1); and a plurality of extrusion dies disposed in the housing (Fig 1), each of the dies defining a hole configuration in the lower end thereof for the extrusion of one or more strands of molten monofilament material therethrough; a fluid flow pathway disposed within the housing adapted for fluid communication with a source of molten monofilament material for directing the material onto the dies (Fig 1); a drive assembly for rotating each of the die at a speed (Fig 2) thereby twisting filaments by synchronously rotating a die about a central longitudinal axis during extrusion and having a drive cylinder, motor, gears and engagement surface (Fig 1), the holes being of equal diameter and connected together at adjacent edge portions (Fig 1).

The Examiner notes that the intended use of an apparatus does not weight in an apparatus claim. Therefore the limitation "for use in continuously forming a plurality of lengths of flexible noise attenuating cutting line for use in rotary vegetation trimmers" is not considered unless further structural limitations within the claim can only perform thus intended use.

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 1722

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 32 and 35-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over any of Israel et al (5,609,903) or Groff (4,445,838) in view of any of Cockings et al (5,492,706) and Heck et al (5,670,185).

Groff and Israel teach the apparatus as discussed above.

Groff and Israel fail to teach the die holes being spaced apart a distance less than the diameter and the hole having the cross-section of an oblate spheroid.

Cockings et al teach twisting filaments by synchronously rotating a die about a central longitudinal axis during extrusion and having a drive cylinder, motor, gears and

Art Unit: 1722

engagement surface (Figs 1 and 3), the holes being of equal diameter spaced apart a distance less than the diameter (Fig 4) for the purpose of forming a twisted extrusion product. Heck et al teach twisting filaments by synchronously rotating a die about a central longitudinal axis during extrusion and having a drive cylinder, motor, gears and engagement surface (Fig 1) for the purpose of forming a twisted extrusion product.

It would have been obvious to one having ordinary skill in the art at the time of the Applicant's invention to have modified the inventions of Groff and Israel et al as taught by Cockings et al and Heck et al because utilizing openings shaped as an oblate spheroid and having openings spaced apart a distance less than the diameter of the openings imparts additional, obvious, possible configurations for the structure of the product.

5. Claims 35 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Groff et al (4,288,463) in view of any of Cockings et al (5,492,706) and Heck et al (5,670,185).

Groff et al teach the apparatus as discussed above.

Groff et al fails to teach the die holes having the cross-section of an oblate spheroid.

Cockings et al teach twisting filaments by synchronously rotating a die about a central longitudinal axis during extrusion and having a drive cylinder, motor, gears and engagement surface (Figs 1 and 3), the holes being of equal diameter spaced apart a distance less than the diameter (Fig 4) for the purpose of forming a twisted extrusion product. Heck et al teach twisting filaments by synchronously rotating a die about a

central longitudinal axis during extrusion and having a drive cylinder, motor, gears and engagement surface (Fig 1) for the purpose of forming a twisted extrusion product.

It would have been obvious to one having ordinary skill in the art at the time of the Applicant's invention to have modified the invention of Groff et al as taught by Cockings et al and Heck et al because utilizing openings shaped as an oblate spheroid imparts additional, obvious, possible configurations for the structure of the product.

6. Claims 1-4, 6, 8, 10-15, 17-18, 20-23, 25 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over any of Groff (4,445,838) or Israel et al (5,609,903) in view of any of Cockings et al (5,492,706) and Heck et al (5,670,185) and further in view of any of Machuque (4,217,083).

Groff, Israel, Cockings et al and Heck et al teach the apparatus as discussed above. Furthermore, the Groff et al and Groff references reference teach a planetary gear assembly (Figures 1) and die holes connected by a thin web portion.

Groff and Israel fail to teach a breaker plate disposed in the chamber, the plate defining an inclined inner portion and a substantially planar outer portion, the inner portion directing molten material from the channel onto the outer portion.

Machuque teaches a breaker plate (Fig 1, #16) upstream of extrusion holes and having an inclined inner portion and a planer outer portion, the inner portion directing molten material from the channel onto the outer portion for the purpose of diffusing the material (col 4, lines 1-10).

It would have been obvious to one having ordinary skill in the art at the time of the Applicant's invention to have modified the inventions Groff and Israel et al as taught



Art Unit: 1722

by Machuque because such breaker plates serve to distribute and or filter material prior to extrusion.

7. Claims 5, 7, 9, 16, 19, 24 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over any of Israel et al (5,609,903) or Groff (4,445,838) in view of any of Cockings et al (5,492,706) and Heck et al (5,670,185).

Groff and Israel teach the apparatus as discussed above.

Groff and Israel fail to teach the die holes being spaced apart a distance less than the diameter, and the die hole configuration in at least one of the dies being different from the die hole configuration in at least one of the other of the dies and the hole having the cross-section of an oblate spheroid.

Cockings et al teach twisting filaments by synchronously rotating a die about a central longitudinal axis during extrusion and having a drive cylinder, motor, gears and engagement surface (Figs 1 and 3), the holes being of equal diameter spaced apart a distance less than the diameter (Fig 4) for the purpose of forming a twisted extrusion product. Heck et al teach twisting filaments by synchronously rotating a die about a central longitudinal axis during extrusion and having a drive cylinder, motor, gears and engagement surface (Fig 1) for the purpose of forming a twisted extrusion product.

It would have been obvious to one having ordinary skill in the art at the time of the Applicant's invention to have modified the inventions of Groff and Israel et al as taught by Cockings et al and Heck et al because utilizing openings shaped as an oblate spheroid and having openings spaced apart a distance less than the diameter of the

Art Unit: 1722

openings imparts additional, obvious, possible configurations for the structure of the product including different configurations from a single assembly.

8. Claims 1-6, 8, 10-18, 20-25 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Groff et al (4,288,463) in view of any of Cockings et al (5,492,706) and Heck et al (5,670,185) and further in view of Machuque (4,217,083).

Groff et al, Cockings et al and Heck et al teach the apparatus as discussed above. Furthermore, the Groff et al reference teaches a planetary gear assembly (Figures 1), the holes of equal diameter spaced apart a distance less than the diameter and the holes connected by a thin web portion.

Groff et al fails to teach a breaker plate disposed in the chamber, the plate defining an inclined inner portion and a substantially planar outer portion, the inner portion directing molten material from the channel onto the outer portion.

Machuque teaches a breaker plate (Fig 1, #16) upstream of extrusion holes and having an inclined inner portion and a planar outer portion, the inner portion directing molten material from the channel onto the outer portion for the purpose of diffusing the material (col 4, lines 1-10).

It would have been obvious to one having ordinary skill in the art at the time of the Applicant's invention to have modified the inventions Groff et al, Groff and Israel et al as taught by Machuque because such breaker plates serve to distribute and or filter material prior to extrusion.

Art Unit: 1722

9. Claims 7, 9, 19 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Groff et al (4,288,463) in view of any of Cockings et al (5,492,706) and Heck et al (5,670,185).

Groff et al teaches the apparatus as discussed above.

Groff et al fails to teach the die holes configuration in at least one of the dies being different from the die hole configuration in at least one of the other of the dies and the hole having the cross-section of an oblate spheroid.

Cockings et al teach twisting filaments by synchronously rotating a die about a central longitudinal axis during extrusion and having a drive cylinder, motor, gears and engagement surface (Figs 1 and 3), the holes being of equal diameter spaced apart a distance less than the diameter (Fig 4) for the purpose of forming a twisted extrusion product. Heck et al teach twisting filaments by synchronously rotating a die about a central longitudinal axis during extrusion and having a drive cylinder, motor, gears and engagement surface (Fig 1) for the purpose of forming a twisted extrusion product.

It would have been obvious to one having ordinary skill in the art at the time of the Applicant's invention to have modified the inventions of Groff et al, Groff and Israel et al as taught by Cockings et al and Heck et al because utilizing openings shaped as an oblate spheroid and having openings spaced apart a distance less than the diameter of the openings imparts additional, obvious, possible configurations for the structure of the product including different configurations from a single assembly.

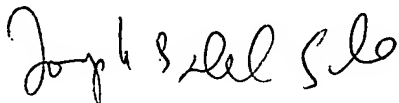
***Response to Arguments***

10. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph S. Del Sole whose telephone number is (571) 272-1130. The examiner can normally be reached on M-F 8:30 - 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yogendra Gupta can be reached on (571) 272-1316. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Joseph S. Del Sole